# Free Processors

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For some time now, all sorts of designs using FPGAs, CPLDs and other programmable logic devices can be found on the Internet. The complexity of these designs is often limited to the level of simple adders, BCD-to-7-segment decoders and similar standard circuits, but there are also other circuits that can be downloaded from the Internet free of charge. Presently, a large group of people is working on implementing well-known processors in FPGAs.

What motivates such people to spend several weeks of their free time designing a processor that can be bought for next to nothing in every electronics shop? At first glance, this may appear to be madness, but if you think about it more carefully, it's actually not all that strange. The most obvious reason is that they want to know how a processor works and want to experiment a bit with its operation; their motivation is thus educational. Naturally, this by itself is a good reason to work on designing a simple processor. A second reason might be that FPGAs are very flexible. If the processor design does not use all the resources of the FPGA, it is easy to incorporate a portion of the external circuitry in the FPGA, thus making the ultimate circuit smaller.

Designing a processor is not particularly easy, and naturally it demands a certain understanding of digital technology and processor architecture. If you download a design from the Internet, you will of course also need to be able to program an FPGA on your own. Even this goes beyond the scope of your resources, you may nevertheless find it informative to have a look at the Internet addresses listed below, even if only to conclude that these people are a bit wacko…

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